Supporting Information

Zhang *et al.* 10.1073/pnas.0810174106

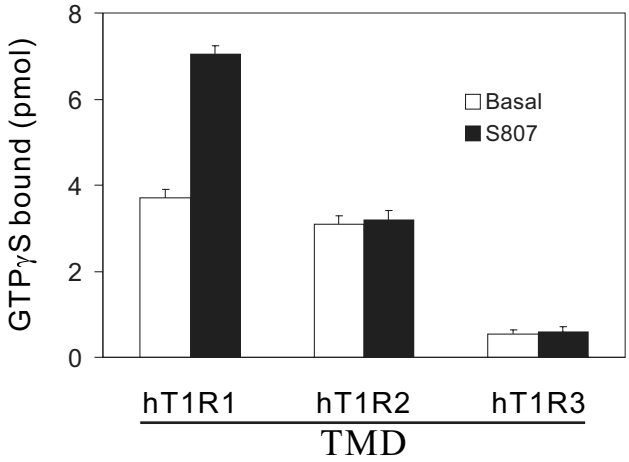

Fig. S1. S807 binds to and activates the transmembrane domain of human T1R1. The GTPγS binding assay with transducin was performed using the transmembrane domains of human T1R1, T1R2, and T1R3-TMD in the absence or presence of 10 μM S807, as indicated. The basal levels of GTPγS were determined in the absence of transducin.

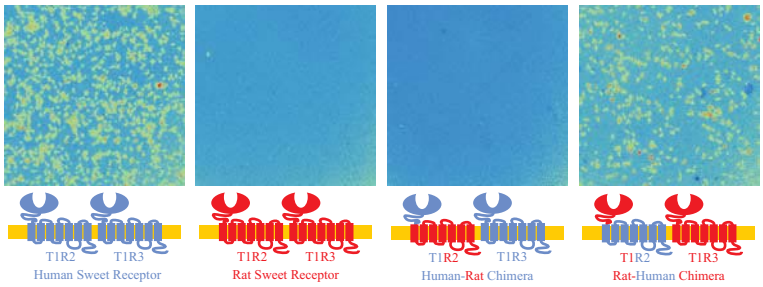

Fig. S2. S819 interacts with the transmembrane domain of human T1R2. S819 activates human but not rat sweet receptor. Human-rat chimeric receptors were used to determine the domain required for S819 activity. T1R2 TMD is required and sufficient to convey the T1R2/T1R3 response to S819.

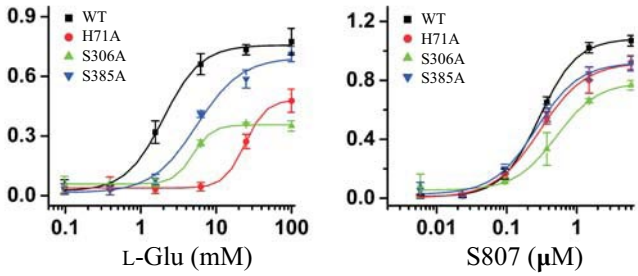

Fig. S3. Dose responses of additional mutant umami receptors. The left panel shows responses of these mutants to L-glutamate and the right panel to the control compound S807. Human T1R1 H71A mutant has reduced response to L-glutamate compared to the WT receptor. S385A has little effect. S306A has reduced responses to both L-glutamate and S807, suggesting S306 is not directly involved in binding L-glutamate.

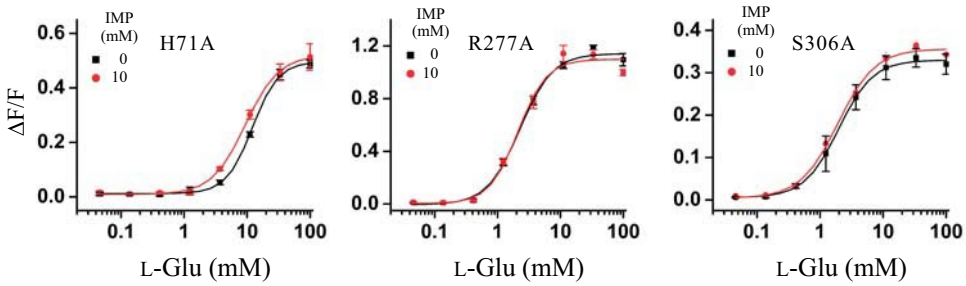

Fig. S4. Dose responses of additional mutant umami receptors that affect the enhancement activity of IMP and GMP. The L-glutamate-induced activity of human T1R1 mutants H71A, R277A, and S306A are not enhanced by 10 mM IMP.